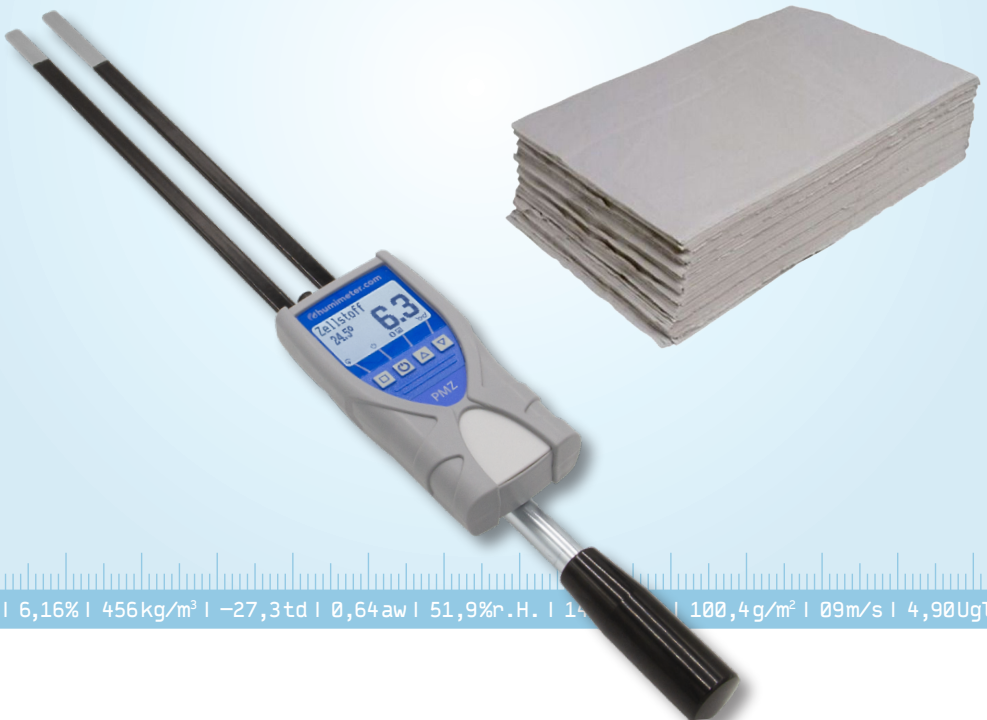


Moisture meter

User manual humimeter PMZ Pulp moisture meter

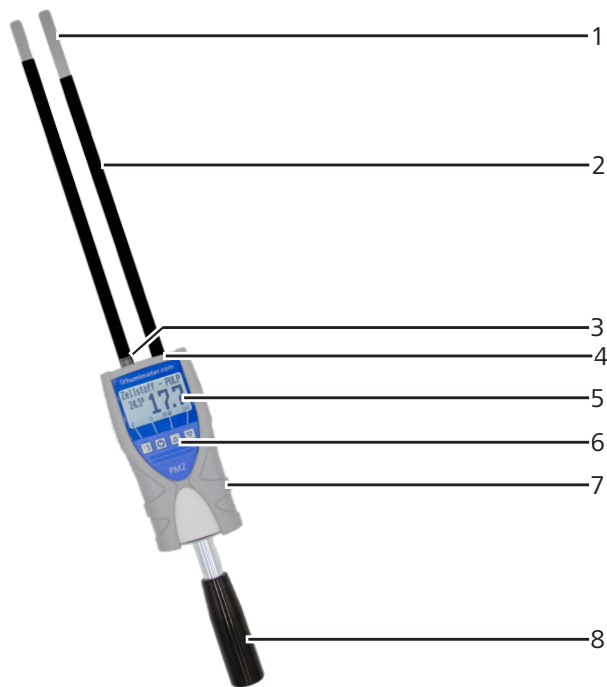
For absolute water content determination of
pulp sheets on a pile



78,0 °F | 6,16% | 456kg/m³ | -27,3td | 0,64aw | 51,9%r.H. | 14 | 100,4g/m² | 09m/s | 4,90Ug/L | 1

An overview of your humimeter PMZ

The main unit



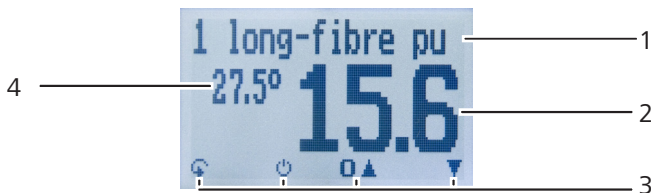
No	Name
1	Measuring electrodes (blank area)
2	Measuring electrodes (insulated area)
3	Infrared temperature sensor
4	USB interface (available optionally)
5	Display
6	Keypad
7	Rubber protection cover
8	Handlebar

Rear of the main unit



No	Name
1	Battery compartment

Display



NO	Name
1	Calibration curve
2	Water content in % ("6.2 Definition of moisture content")
3	Display symbols
4	Temperature display

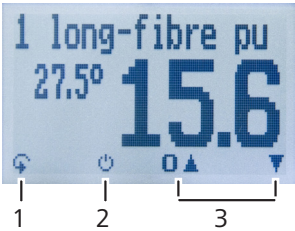
Display symbols

Symbol	Name	Symbol	Name
	Enter		No
	Up		Change input level
	Down		OK
	Back		Change menu
	Enter numbers		Enter data
	Enter letters		View measurements
	Continue / right		Delete measurements
	Left		On/off button, display light
	Yes		Save measured value

Menus

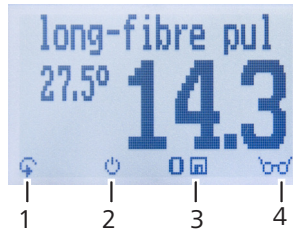
The device has three different menus: product selection, Data Log and main menu.

Product selection menu



No	Name
1	Change menu
2	Display illumination / device on/off
3	Changing the calibration curve

Data Log menu



No	Name
1	Change menu
2	Display illumination / device on/off
3	Save measured value
4	Show the last recorded values

Main menu

The main menu comprises the following menu items:

- **Data storage:**
Manual Logs, Clear Logs
- **Print Logs:**
Last Log, All Logs, Clear Logs
- **Send Logs:**
Manual Logs, Clear Logs
- **Options:**
Bluetooth, Date/Time, Log Time, Language, Unlock, °C/°F, Userlevel, BL On Time, Auto Off Time, Materialcalib., Online Send, Password, Reset
- **Status**

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1. Introduction

1.1 Information on this user manual

This user manual enables safe and efficient use of the PMZ humimeter. The user manual is an essential part of the device and must be kept close to the humimeter and be accessible to the user at any time.

Before starting any work, the user must carefully read and understand this manual. Basic requirement for safe work is to follow all safety and handling instructions specified in this user manual.

1.2 Limitation of liability

All of the information and instructions provided in this user manual have been compiled on the basis of the current standards and regulations, the state of the art, and the extensive expertise and experience of Schaller Messtechnik GmbH.

Schaller Messtechnik GmbH does not accept any liability for damages associated with the following, which also voids the warranty:

- Non-observance of this user manual
- Improper use
- Inadequately qualified users
- Unauthorised modifications
- Technical changes
- Use of unapproved spare parts

This fast measuring procedure can be affected by a range of different factors. For this reason, we recommend periodically checking the device's measurements with a standardised oven-drying method.

We, as the manufacturer, do not accept any liability for any incorrect measurement and associated consequential damage.

1.3 Symbols used in this manual

All safety instructions in this user manual are identified by symbols.



ATTENTION

Non-observance can lead to physical damage.



Information

This symbol indicates important information that enables users to use the device more efficiently and cost effectively.



WARNING

In case of non-observance, light or medium injuries can occur.

1.4 Customer service

For technical advice, please contact our customer service department at

Schaller Messtechnik GmbH
Max-Schaller-Straße 99
A - 8181 St. Ruprecht an der Raab

Telefon: +43 (0)3178 28899
Fax: +43 (0)3178 28899 - 901

E-Mail: info@humimeter.com
Internet: www.humimeter.com



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2. For your safety

The device complies with the following European directives:

- Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS)
- Electromagnetic compatibility (EMC)

The device corresponds to state-of-the-art technology. However, it is still associated with a number of residual hazards.

These hazards can be avoided through strict observance of our safety information.

2.1 Proper use

- Fast measuring device for water content determination of piled pulp.
- Only products which are defined in the following instructions may be measured (see "6. Calibration curves").

2.2 Improper use

- The device should not be used in ATEX areas.
- Do not perform a measuring on a running machine.
- It is not possible to measure pressed pulp blocks made of flocks.
- Single sheet measurements are not possible.
- The device is not waterproof, protect it from water and fine dust.

2.3 User qualifications

The device should only be handled by persons who are expected to carry out the work reliably. Persons whose reactions are influenced, by drugs, alcohol or medication, are not permitted to use the device.

Persons who use this device must have read and understood the user manual and follow its instructions.

2.4 General safety information

Follow the safety instructions below to avoid personal injury and material damage:

- Remove the batteries from the device if it is not to be used for a prolonged period.
- If you notice loose parts or damage on the device, remove the batteries and contact your distributor.

All of the device's technical features have been inspected and tested before delivery. Every device has a serial number. Do not remove the tag with the serial number.

2.5 Warranty

Not covered by warranty:

- Damages caused by non-observance of the user manual
- Damages caused by third-party intervention
- Products that have been used improperly or modified without authorization
- Products with missing or damaged warranty seals
- Damages caused by majeure, natural disasters, etc.
- Damages due to improper cleaning
- Damage due to leaking batteries

3. First steps

3.1 Unpacking the device

- Unpack the device
- Next, make sure that it is not damaged and that no parts are missing.

3.2 Checking the delivery content

Use the following list to check if the delivery is complete:

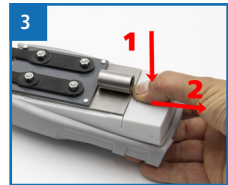
- humimeter PMZ
- 4 pieces AA alkaline batteries
- wooden case
- steel handlebar
- rubber protection
- user manual

Optional accessories:

- humimeter USB data interface module - USB stick with LogMemorizer software (data recording and analysing software) and USB cable
- Battery powered thermo printer (can only be used with humimeter USB data interface module) - described in a separate user manual
- Bluetooth module (can only be used with humimeter USB data interface module) - described in a separate user manual
- Test block - for checking the calibration on two different points

3.3 Inserting the batteries

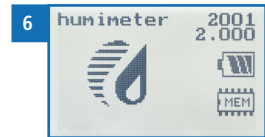
1. Remove the rubber protection from the device. Pull it off from the upper side of the housing. If you have an optional USB interface, pull out the protective cover of the USB socket first. (figure 1 and 2)
2. Take the device in one hand and press with your thumb on the marked area of the battery compartment. Now slide the battery cover downwards from the device (2) (figure 3).
3. Insert the batteries with negative and positive terminals matching those indicated on the battery compartment. Press the batteries down firmly, so that they lay flat on the bottom of the housing (figure 4).
- » When all the batteries are inserted, the device turns on automatically.
4. Slide the battery cover back onto the housing until it clicks into place. Then put the rubber protection onto the housing - start with the side where the battery cover is. (figure 5).



4. Using the device - Basics

4.1 Turn on the device

- Press the  button for 3 seconds.
- » The display will then show the status indicator (figure 6).
- » The device turns on automatically after inserting batteries.

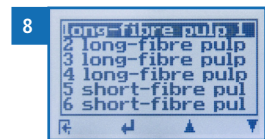
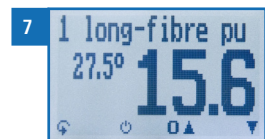


4.2 Selecting the calibration curve

Requirement : The device has to be in the product selection menu (figure 7).

For an overview of the different calibration curves and the criteria for selecting them, please refer to "6. Calibration curves".

1. Press the  or  button to move from one product to the next Or
2. Press the  or  button for 3 seconds to open the calibration curve overview (figure 8).
3. Use the arrow keys to move from one calibration curve to the next
4. and keep any of them pressed to scroll through the types.
5. Confirm your selection by pressing .
 - » The selected calibration curve is shown on the top of the display.



4.3 Perform a measurement

- The measurement is described in chapter "5. Measurement".

4.4 Turn off the device

Requirement: The device has to be in the product selection or Data Log menu. You cannot turn off the device in the menu level.

- Press the  button for 3 seconds.

5. Measurement

5.1 Measuring procedure setup

Requirement: The measuring instrument must have the same temperature as the product to be measured as precisely as possible. It is recommended to let the measuring device adjust to the temperature close to the product before measuring.

1. Turn on the device (see "4.1 Turn on the device").
2. Select the desired calibration curve (see "6. Calibration curves") by pressing the  or  button (see "6.1 Selecting the calibration curve").

5.2 Perform a measurement

5.2.1 Measurement on stapled pulp sheets / bows

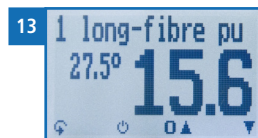
Requirement: The pulp height has to be at least 30 cm on the top and bottom side of the electrodes to avoid incorrect measurements. The device has approximately the same temperature as the measured material. The insertion position is designed to ensure that the contact pressure on the electrodes lies around 250kg/m² (2.45kN/m²).

1. Take the measuring unit by the handle with one hand and gently lift the pulp pile. Insert the measuring electrodes into the crack of the pile (see figure 9 and 10).
2. The electrodes have to be inserted as far as possible into the pile (at least $\frac{3}{4}$ of the electrode length) (see figure 11).
3. Make sure that the IR temperature sensor is exposed and can measure the temperature of the pulp surface. If the IR sensor does not face the pulp surface, a too high temperature, due to hot parts or the body surface as well as a too cold temperature, due to cold parts or clothing, can negatively affect the measurement result caused by incorrect temperature compensation (figure 12).



4. To ensure a correct measurement, the above mentioned pulp height must be maintained to ensure a minimum contact pressure on the electrodes.

- » The measured value is immediately visible on the instruments display (figure 13).
- » Now you can save the displayed measured value on the device (see "5.4 Saving individual readings" or "5.5 Saving several readings (measurement series) at the same time").



ATTENTION

Injury hazard

Injury hazard due to measuring electrodes.

- Keep the measuring electrodes away from your body during all activities.
- Keep the measuring electrodes away from other people's bodies during all activities.



Information - Measuring accuracy

This rapid and non-destructive measuring procedure allows you to quickly take moisture readings at a number of different points. When saving the individual readings, the device will automatically calculate the readings' average (see "5.5 Saving several readings (measurement series) at the same time").



Information - Incorrect readings

Make sure to select the correct calibration curve for the material you are measuring. This prevents taking incorrect readings (see "11. Faults").



Information - IR-temperature sensor

Pay attention to the IR temperature sensor on the top of your humimeter PMZ. The temperature sensor is a precise optical measuring instrument. It should not be under strong pressure when the electrodes are inserted or be damaged by impacts. This will cause irreparable damage that falsifies the measurement result because of incorrect temperature compensation.

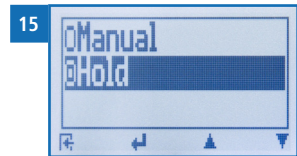
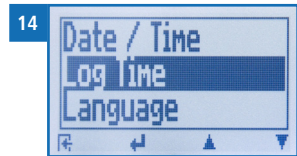
5.3 Hold function - Freezing the displayed values

The device can be configured in such a way that the information being shown on the display will freeze at the touch of a button until a new button is pressed. This function can be very useful when e.g. taking readings in spaces where it is not possible to see the display (e.g. overhead).

5.3.1 Activating the hold function in the options menu

Requirement: The device has to be turned on and be in the product selection menu.

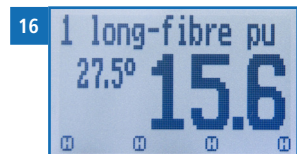
1. Press  twice or hold for 2 seconds.
2. Select **Options**. To do so, press  or  and confirm by pressing .
3. Select **Log Time** (figure 14). To do so, press  or  and confirm by pressing .
4. Navigate to **Hold** (figure 15). To do so, press  or  and confirm by pressing .
- » Setting has been saved.
5. Press  to leave the **Options** menu.
6. Press  to leave the main menu.



5.3.2 Using the hold function

Requirement: The device has to be turned on and be in the Data Log menu (see "Menus" on page 4).

- Press .
- » The current reading will be frozen. All of the four symbols will now be displayed as  (figure 16).
- To reactivate the frozen display simply press any button.



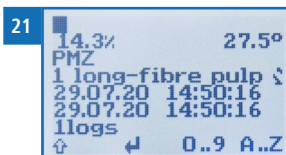
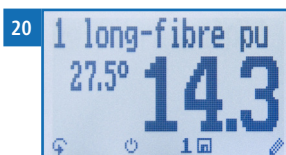
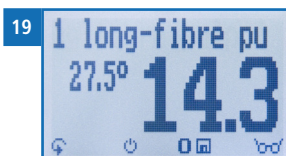
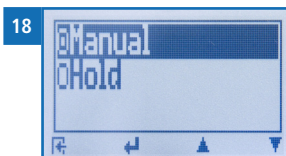
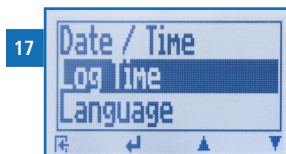
5.4 Saving individual readings

The device can be configured in such a way that the device will save a reading every time a button is pressed. This option (manual save function) is the device's default setting.

5.4.1 Activating the manual save function in the options menu

Requirement: The device has to be turned on and be in the product selection menu.

1. Press  twice or hold for 2 seconds.
2. Select **Options**. To do so, press  or  and confirm by pressing .
3. Select **Log Time** (figure 17). To do so, press  or  and confirm by pressing .
4. Navigate to **Manual** (figure 18). To do so, press  or  and confirm by pressing .
5. Setting has been saved.
6. Press  to leave the **Options** menu.
7. Press  to leave the main menu.

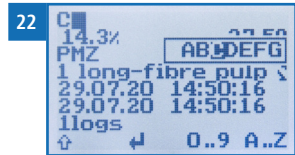


5.4.2 Using the manual save function

Requirement: The device has to be in the Data Log menu (see "Product selection menu" on page 4). The device is set to DataLog Time - Manual.

1. Press .
 - » On the display appears the figure 20 - prior to the disk symbol is now the number one.
2. Press  to enter a name for the saved reading and to finish the measuring process.
 - » On the display appears figure 21.
3. If a previous entry has already been made, the displayed entry can be overwritten if required.

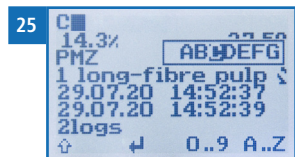
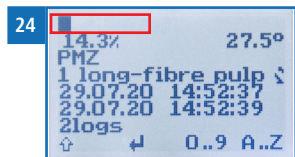
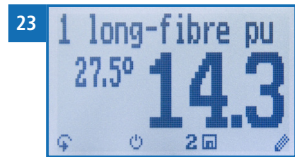
4. **Add letters:**
Press and hold **A..Z** to quickly scroll to the required letter and either press it for 3 seconds or press  to confirm the selected letter (figure 22).
5. **Add numbers:**
Press and hold **0..9** to quickly scroll to the required number and either press it for 3 seconds or press  to confirm the selected number.
6. **Moving forward/backward:**
Press  to switch to another input level. Press  or  move forward or backward.
7. Confirm your entry by pressing .
 - » The data you entered has been saved.



5.5 Saving several readings (measurement series) at the same time

Requirement: The device has to be in the Data Log menu.

1. Take several readings from one stack or a roll (see "5. Measurement").
2. Press  for each measurement
 - » On the display appears figure 23. This number shows the number of already saved readings.
3. Press  to enter a name for the saved series of measurements and to finish the measuring process.
 - » On the display appears figure 24.
 - » If a previous entry has already been made, the displayed entry can be overwritten if required.
4. **Add letters**
Press and hold **A..Z** to quickly scroll to the required letter and either press it for 3 seconds or press  to confirm the selected letter (figure 25).
5. **Add numbers:**
Press and hold **0..9** to quickly scroll to the required number and either press it for 3 seconds or press  to confirm the selected number.

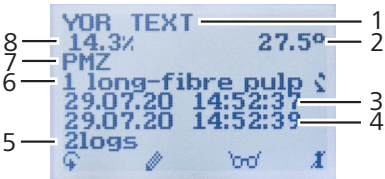


6. Moving forward/backward:

Press  to switch to another input level. Press  or  to move forward or backward.

7. Confirm your entry by pressing .

- » The data you entered has been saved.
- » The device automatically determines the average moisture content of the saved-measuring values..
- » On the display appears the following information:

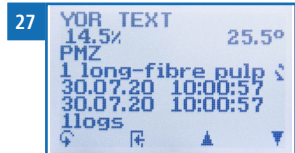


No	Name
1	Name of the measurement series
2	Temperature (average)
3	Date & start time of the measurement series
4	Date & end time of the measurement series
5	Number of saved readings
6	Calibration curve
7	Device name
8	Water content (average)

5.6 View single measured value

Requirement: Minimum one measurement (e.g. **1 Log**) was saved. On the display appears .

1. Press .
2. Navigate to the required measurement series. To do so, press  or .
- » On the display appears figure 27.
- » Press  to leave this screen.

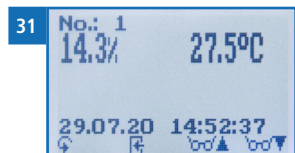
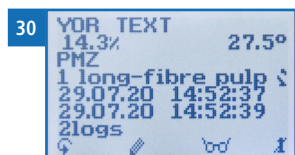
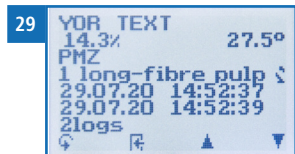
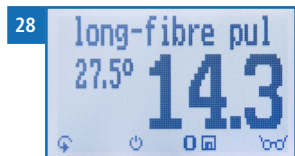


5.7 View single measured values of a measurement series

Requirement: Minimum one measurement (e.g. **2 Logs**) was saved.

On the display appears .

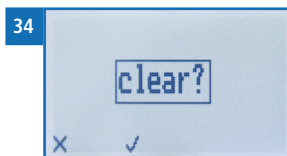
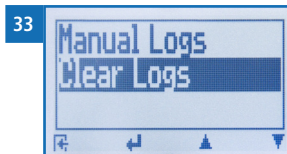
1. Press .
2. Navigate to the required measurement series. To do so, press  or .
- » On the display appears figure 29.
3. Press  to move to another entry level.
- » On the display appears figure 30.
4. Press again .
- » On the display appears figure 31.
5. Navigate to the required reading (**No.: 1, No.: 2**). To do so, press  or .
6. Press  to exit the screen.



5.8 Delete all measurements (Data storage)

Requirement: One or more measurements have been performed and stored.

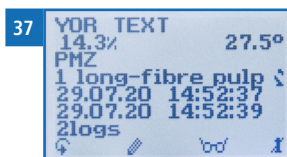
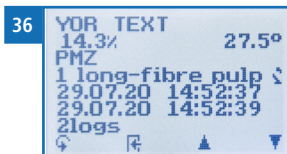
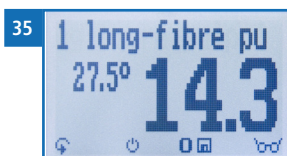
1. Press  twice or hold for 2 seconds.
2. Navigate to **Edit Logs** (figure 32). To do so, press  or  and confirm by pressing .
3. Navigate to **Clear Logs** (figure 33). To do so, press  or  and confirm by pressing .
 - » On the display appears the message **clear?** (figure 34).
4. Confirm .
 - » The data storage was deleted.
5. Press  to exit the Edit Logs menu.
6. Press  to exit the main menu.



5.9 Delete individual measurement series

Requirement: One measured value (**1 Log**) or a measurement series (f.e. **3 Logs**) has been saved. On the display appears .

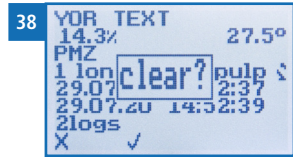
1. Press .
 - » On the display appears figure 36.
2. Navigate to the required measurement. To do so, press  or .
3. Press  to switch to another input level.
 - » On the display appears figure 37.
4. Press .



- » On the display appears the message "clear?" (figure 38).

5. Confirm with .

- » The measurement has been deleted.



5.10 Delete a single value from a measuring series

Requirement: A measurement series with at least 2 logs has been saved. On the display appears .

1. Press .

- » On the display appears figure 40.

2. Navigate to the required measurement. To do so, press  or .

3. Press  to switch to another input level.

- » On the display appears figure 41.

4. Press .

- » On the display appears figure 42.

5. Navigate to the required measurement. To do so, press  or .

6. Press  to switch to another input level..

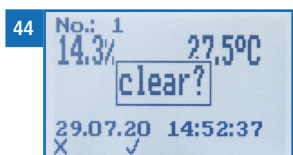
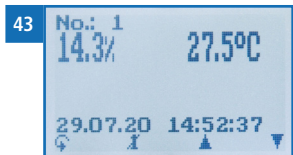
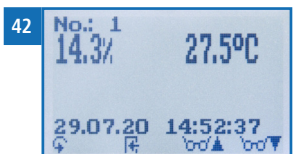
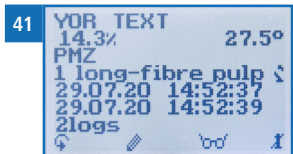
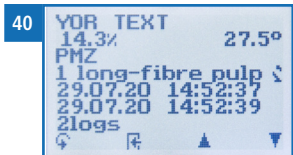
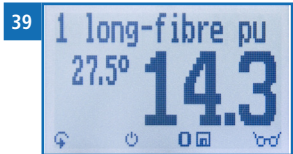
- » On the display appears figure 43.

7. Press  to delete the displayed value.

- » On the display appears the message "clear?" (figure 44).

8. Confirm with .

- » The measurement has been deleted.



6. Calibration curves

The following calibration curves are available

Calibration curve	Pulp type	Measuring range
1 long fiber pulp 1	Long fiber pulp from sulfate and sulfite process	8%-40% WC
2 long fiber pulp 2		7%-40% WC
3 long fiber pulp 3	Pulp with a predominantly long fiber content	7%-40% WC
4 long fiber pulp 4		6%-40% WC
5 short fiber pulp 1	Short fiber pulp from sulfate and sulfite process	8%-40% WC
6 short fiber pulp 2		7%-40% WC
7 short fiber pulp 3	Pulp with a predominantly short fiber content	7%-40% WC
8 short fiber pulp 4		6%-40% WC
9 free 1	Free calibration curves within the measuring range of the short fiber calibration curves for customers' products	5%-30% WC
10 free 2		5%-30% WC
11 free 3	Free calibration curves within the measuring range of the long fiber calibration curves for customers' products	9%-45% WC
12 free 4		9%-45% WC
Digit	Special products and for creating a calibration curve	0,0-100
Test block	! Only to check your humimeter PMZ with the optional test block !	

6.1 Selecting the calibration curve

As a result of the numerous pulp types and their composition and production processes, there is no standardised calibration curve classification. The fiber type is the main factor for the different calibration curves of the humimeter PMZ.

The product type overview provides suggestions for pulp types based on the fiber types used.

For mixed fiber pulp, choose a calibration curve which corresponds to the greater percentage of the fiber.

Example:

80% Hardwood (short fiber) & 20% Softwood (long fiber) use one of the types short fiber pulp 1-4

80% Softwood (long fiber) & 20% Hardwood (short fiber) use one of the types long fiber pulp 1-4

In order to achieve an exact measurement result, a one-time comparison measurement with your online moisture measurement or a reference method already used by you (e.g. EN/ISO 287) should be performed.

1. Measure your pulp with the calibration curves which provide realistic results and note down the different measurement results including temperature with the relevant calibration curve names.
2. Note the actual moisture content from your online moisture measurement or run a reference water content determination e.g. according to EN ISO 287.
3. Compare the recorded readings for the different calibration curves with the actual moisture content based on the reference measurement. From now on, you should always use the calibration curve which most closely matches the reference measurement.
 - » Note: The name of the calibration curve can be changed to a name of your choice (e.g. to your brand name and density). Please contact your dealer regarding this.

6.2 Definition of moisture content

The device displays the moisture content. This means that the moisture will be calculated based on the total mass:

$$\%WG = \frac{M_n - M_t}{M_n} \times 100$$

M_n : Mass of the sample with average moisture content

M_t : Mass of the dried sample

%WG: Moisture content (according to standard EN ISO 287)

7. LogMemorizer

Note: Your device is equipped with the optional USB port or Bluetooth module.

7.1 LogMemorizer install/open

1. Install LogMemorizer on your PC or as an app on your smartphone. Alternatively, use LogMemorizer as a web app in your browser - no installation required.

Note: The web app is only for viewing measurement data that has already been uploaded to the cloud.

- » Download LogMemorizer from humimeter.com/software or scan the following QR codes for your applications.

Desktop version



Android app



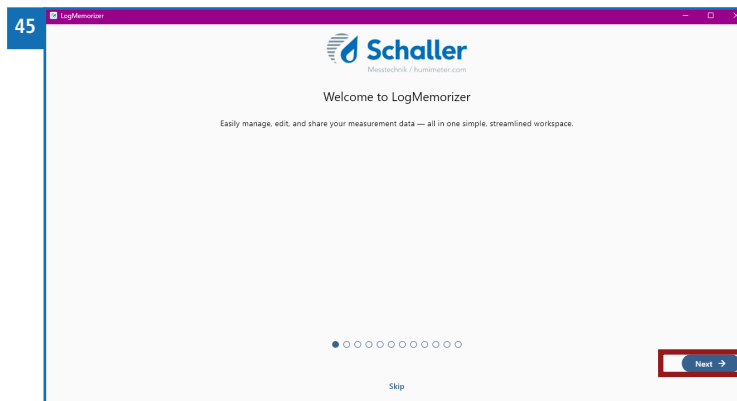
iOS app



Web app



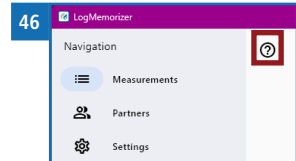
2. Open LogMemorizer after installation.
 - » The interactive introduction will appear.



7.2 Introduction

Follow the introduction by clicking “Next.” This will help you learn all the important features. After the introduction, you will be taken to the user interface.

- » You can access the introduction again at any time by clicking the “?” icon.



7.3 Establishing the connection

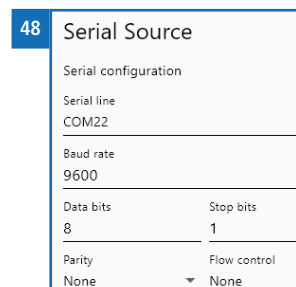
Note: A connection can only be established via LogMemorizer. Before you can transfer measurement data, you must establish a connection between LogMemorizer and your humimeter. Make sure the humimeter is turned on before establishing the connection.

1. Open LogMemorizer on your PC.
2. Go to “Select Source.”
3. Select the interface that your device has here.

7.3.1 USB

Note: Install the USB driver before using LogMemorizer with the optional USB interface.

1. Plug the USB Mini-B connector into the humimeter.
2. Select your humimeter under “Connection.” Do not change the baud rate unless instructed to do so by the manufacturer.
3. Click “Apply.”
 - » The connection has now been established.

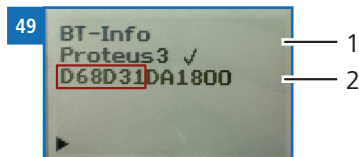


7.3.2 Bluetooth

- 1. LogMemorizer automatically starts searching for Bluetooth devices.
- 2. The humimeter devices you find will be shown in a list.
 - » The first 6 numbers of the Bluetooth MAC address are displayed for easier identification (see [Check Bluetooth status](#)).
- 3. Click on your humimeter.
- 4. Confirm the connection.

7.3.3 Check Bluetooth status

- 1. Press twice or hold  for 2 seconds.
- 2. Go to **Options/Bluetooth/Info**. To do this, press  or  and confirm by clicking .
 - » The status indicator appears on the display **humimeter**.
 - » The display shows the following information:

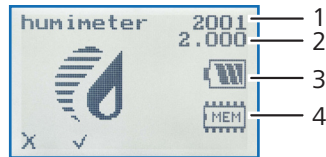


No.	Description
1	Name of the Bluetooth module
2	MAC address of the Bluetooth module

- 3. Confirm by clicking .
- 4. Press , to close the main menu.

8. Device status check

1. Press  twice or hold for 2 seconds.
2. To do so, press  or  and confirm by pressing .
 - » The **humimeter** status symbol appears on the display .
 - » On the display appears the following information:



No	Name
1	Serial number
2	Software version
3	Battery status
4	Memory status

3. Confirm by pressing .
4. Press  to leave the main menu.

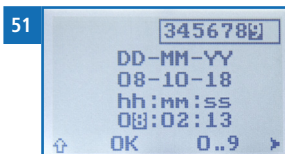
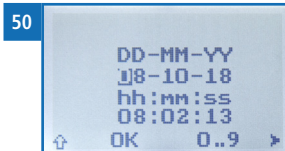
9. Adjust settings

9.1 Set Bluetooth

For Bluetooth, refer to a separate user manual.

9.2 Set date/time

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **Date/Time**. To do so, press  or  and confirm by pressing .
 - » On the display appears figure 53.
 - » The format for the date is **DD-MM-YY** (Day-Month-Year).
 - » The format for the time is **hh:mm:ss** (Hour:Minutes:Seconds).
4. **Add numbers:**
Press and hold  to navigate quickly to the required number and stay on the number for 3 seconds (figure 54).
5. **Navigate forward:**
To move forward between **DD-MM-YY** and **hh:mm:ss**, press .
6. **Navigate backward:**
Press  to switch to another input level. To move backward between **DD-MM-YY** and **hh:mm:ss**, press .
7. Confirm the date/time by pressing .
 - » The setting has been saved.
8. Press  to exit the **Options** menu.
9. Press  to exit the main menu.



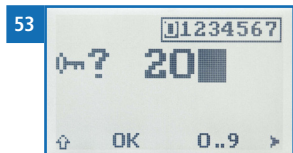
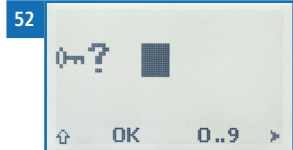
9.3 Language setting

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **Language**. To do so, press  or  and confirm by pressing .
4. Navigate to the required language. To do so, press  or  and confirm by pressing .
 - » The setting has been saved.
5. Press  to exit the **Options** menu.
6. Press  to exit the main menu.

9.4 Unlock options

Requirement: Certain options are deactivated .

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **Unlock**. To do so, press  or  and confirm by pressing .
 - » On the display appears figure 55.
 - » The four-digit password is the serial number of the device when delivered.
4. **Add numbers:**
 Press and hold  to navigate quickly to the required number and stay on the number for 3 seconds or press  to accept the number (figure 56).
5. **Navigate backward:**
 Press  to switch to another input level.
 Navigate back with .
6. Confirm the four-digit password by pressing .
 - » The setting has been saved.



- » The **°C/°F**, **BL On Time**, **Swith-off time**, **Materialcalibration**, **Password**, **Reset** options are now activated.

7. Press  to exit the **Options** menu.

8. Press  to exit the main menu.

9.5 Lock options

After switching the instrument off and on again, the options **°C/°F**, **BL On Time**, **Swith-off time**, **Materialcalibration**, **Password**, **Reset** are again deactivated.

9.6 Selecting °C/°F

Requirement: All options are activated (see "9.4 Unlock options").

1. Press  twice or hold for 2 seconds.
 2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
 3. Navigate to **°C/°F**. To do so, press  or  and confirm by pressing .
 4. Navigate to the required temperature scale, i.e. Celsius (°C) or Fahrenheit (°F). To do so, press  or  and confirm by pressing .
- » The setting has been saved.
5. Press  to exit the **Options** menu.
 6. Press  to exit the main menu.

9.7 Setting the power save mode

9.7.1 Adjusting the display illumination

Requirement: All options are activated (see "9.4 Unlock options" "Unlock options").

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **BL On Time**. To do so, press  or  and confirm by pressing .
4. Select the required display illumination period (30 seconds/2 minutes/5 minutes/10 minutes). To do so, press  or  and confirm by pressing .
- » The setting has been saved.
5. Press  to exit the **Options** menu.
6. Press  to exit the main menu.

9.7.2 Automatic power-off setting of the device

Requirement: All options are activated (see "9.4 Unlock options").

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **Switch-off time**. To do so, press  or  and confirm by pressing .
4. Select the preferred time for the unit to stay on (3 minutes/5 minutes/10 minutes). To do so, press  or  and confirm by pressing .
- » The setting has been saved.
5. Press  to exit the **Options** menu.
6. Press  to exit the main menu.

9.8 Adjusting the type calibration

The adjustment of the type calibration is described in a separate user manual.

9.9 Change password

Requirement: All options are activated (see "9.4 Unlock options").

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **Password**. To do so, press  or  and confirm by pressing .
 - » On the display appears the current password.
4. Overwrite the current password. To do so, press and hold **0..9** to navigate quickly to the required number and stay on the number for 3 seconds or press  to accept the number.

Navigate backward:

Press  to switch to another input level.

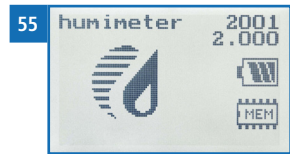
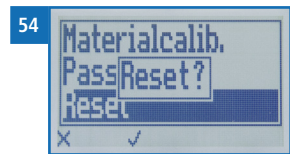
Navigate back with .

5. Confirm the new four-digit password by pressing **OK**.
 - » The setting has been saved.
6. Press  to exit the **Options** menu.
7. Press  to exit the main menu.

9.10 Resetting the device to factory settings

Requirement: All options are activated (see see "9.4 Unlock options").

1. Press  twice or hold for 2 seconds.
2. Navigate to **Options**. To do so, press  or  and confirm by pressing .
3. Navigate to **Reset**. To do so, press  or  and confirm by pressing .
 - » On the display appears **Reset?** (figure 57).
4. Confirm with .
 - » The device will now be reset to its factory settings. All personal settings are deleted.
 - » The humimeter status symbol appears on the display (figure 58).
 - » The saved measured values are not lost through the reset.



10. Cleaning and maintenance

Regular cleaning and maintaining your device ensures that it remains in an excellent condition for as long as possible.

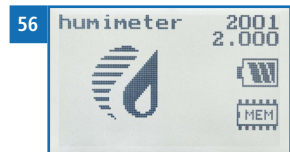
10.1 Replacing batteries

The device continuously monitors the battery charge status. The status screen displays the current battery charge level (figure 59).

If an exclamation mark appears in the battery icon, the batteries must be replaced immediately (figure 60).

Proceed as described in section "3.3 Inserting the batteries".

You as the end user are legally obliged to return all used batteries, disposal with household waste is prohibited (Battery Directive).

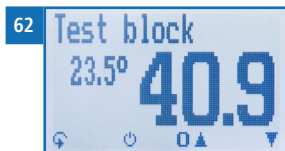
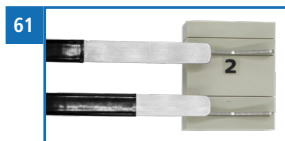
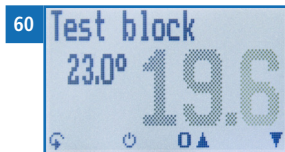
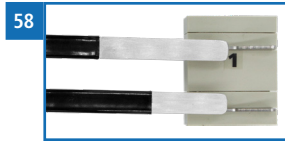


10.2 Calibration check

10.2.1 Calibration check of the lancet probe

Requirement: The test block article no. 12308 is required. The device and the test block have to reach a temperature between 23,0 °C and 23,5 °C. The device and the test block must be free of dust, dirt and grease.

1. Switch on the device and select the calibration curve "test block" using the arrow keys (see 6.1).
2. Hold side 1 of the test block as shown on figure 61 on the electrodes.
 - » The displayed water content has to be 22,0 % (+/- 0,4 %) (the moisture value will be displayed in black) (figure 62).
 - » If the displayed value lies outside this range (the moisture value is displayed in grey) (figure 63) please, contact your dealer or Schaller Messtechnik GmbH.
3. Hold side 2 of the test block as shown on figure 64 on the electrodes.
 - » The displayed water content has to be 41,0 % (+/- 1,0 %) (the moisture value will be displayed in black) (figure 65).
 - » If the displayed value lies outside this range (the moisture value is displayed in grey) please, contact your dealer or Schaller Messtechnik GmbH.



10.3 Care instructions

- Do not leave the device out in the rain. The device is not waterproof.
- Do not expose the device to extreme temperatures.
- Protect the device from strong mechanical shocks and loads.

10.4 Cleaning the device



ATTENTION

Device damage caused by wet cleaning

Water or cleaning products can damage the device if they get into the device.

- ▶ Only clean with dry materials.

Housing

- Clean the plastic housing with a dry cloth.

Measuring electrodes

- Should the measuring electrodes be dirty, they can be cleaned with alcohol.

Test block

- The test block can be cleaned with a moistened lint-free cloth.

11. Faults

If the following actions do not eliminate the faults or if other faults not listed here appear, please contact Schaller Messtechnik GmbH.

Fault	Cause	Remedy
Measuring error	Material temperature outside the application range: Material below 0 °C or above +50 °C	The temperature of the material being measured has to be between 0 °C and +50 °C.
	Temperature difference between material to be measured and measuring device	Let the temperature of the measuring device adjust to that of the pulp (a maximum difference of 3 °C is permissible).
	Wrong calibration curve	Before starting a measurement, check if the correct curve (product) is set (see "6.1 Selecting the calibration curve").
	Material is not thick enough	Ensure that the material has a minimum thickness of 30 cm on the top and bottom of the electrodes.
	Incorrect contact pressure	Increase or decrease the material weight on the electrodes by changing the insertion position in order to achieve a contact pressure of approx. 250kg/m ² (2.45kN/m ²).
	Metals or similar conductive materials within the measuring field	Remove metals or similar conductive materials from the measuring field.
	Dirty electrodes	Clean the sensor surface (see "10.4 Cleaning the device").

Fault	Cause	Remedy
Data transfer to Log-Memorizer failed	Interface not configured	The interface only has to be configured once. To do so, press the F1 key on your computer and read the Help file for your Log-Memorizer program.

12. Repair

If your humimeter needs repair, please pack it securely for transport and send it to:
 Schaller GmbH
 Max-Schaller-Straße 99
 A - 8181 St.Ruprecht an der Raab

Download the repair form at humimeter.com/reparatur. Please fill out the form completely and enclose it with your package. This will allow us to clearly identify your repair request and process it quickly.



WARNING

For safety reasons, deeply discharged, damaged, or swollen rechargeable or non-rechargeable batteries are not allowed to be sent. Rechargeable and non-rechargeable batteries must be removed from the device before sending.

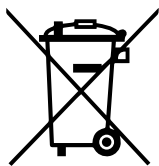
13. Storage and disposal

13.1 Storing the device

Store the device as follows:

- Do not store outdoors.
- Store dry and dust-free.
- Protect from sunlight.
- Avoid mechanical shocks and impacts.
- Always remove the batteries from the device if it is not used for more than two months.
- Storage temperature: -20 °C to +60 °C

13.2 Disposal of the device



Devices marked with this symbol are regulated by the European Directive 2012/19/EU of the European Parliament and the Council of 4 July 2012 relating to waste of electrical and electronic equipment.

If the device is not used within the European Union, national disposal regulations in the country of use must be observed.



Electrical devices should not be disposed of with household waste.

Please recycle the device in an environmentally friendly way using suitable recycling systems.

14. Device information

14.1 EC declaration of conformity

KONFORMITÄTSERKLÄRUNG DECLARATION OF CONFORMITY

Name/ Adresse des Herstellers:	Schaller Messtechnik GmbH
Name/ address of manufacturer:	Max-Schaller-Straße 99 A – 8181 St. Ruprecht
Produktbezeichnung:	humimeter
Product designation:	
Typenbezeichnung:	PMZ
Type designation:	
Produktbeschreibung:	Messgerät zur Bestimmung des Wassergehalts in Zellstoff
Product description	Measuring instrument for determining the water content in pulp

Das bezeichnete Produkt erfüllt die Bestimmungen der Richtlinien:
The designated product is in conformity with the European directives:

EMV - Richtlinie 2014/30/EC

EMC Directive 2014/30/EU

RoHS - Richtlinie 2011/65/EG

RoHS-Directive 2011/65/EU

Die Übereinstimmung des bezeichneten Produktes mit den Bestimmungen der Richtlinien wird durch die vollständige Einhaltung folgender Normen nachgewiesen:

Full compliance with the standards listed below proves the conformity of the designated product with the provisions of the above-mentioned EC Directives:

EN 61326-1:2013

Elektrische Mess-, Steuer-, Regel- und Laborgeräte - EMV-Anforderungen
Electrical equipment for measurement, control, and laboratory use – EMC requirements

EN IEC 63000:2019-05
ersetzt / replaced
EN 50581:2012

Technische Dokumentation zur Beurteilung von Elektro- und Elektronikgeräten hinsichtlich der Beschränkung gefährlicher Stoffe.
Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

Für das angeführte Produkt ist eine vollständige Dokumentation mit Betriebsanleitung in Originalfassung vorhanden.

For the mentioned product a complete documentation with manual of instruction in original version is available.

Bei Änderungen, die nicht vom Hersteller spezifiziert sind, verliert diese Konformitätserklärung die Gültigkeit.

In case of any changes not agreed upon with the manufacturer, this declaration of conformity loses its validity.

St. Ruprecht a.d. Raab, 31.07.2022



.....
Bernhard Maunz
Rechtsverbindliche Unterschrift des Ausstellers
Legal binding signature of the issuer



DECLARATION OF CONFORMITY

Name/ address of manufacturer: **Schaller Messtechnik GmbH**
Max-Schaller-Straße 99
A – 8181 St. Ruprecht

Product designation: **humimeter**

Type designation: **PMZ**

Product description **Measuring instrument for determining the water content in pulp**

The designated product is in conformity with the following directives:

- **Electromagnetic Compatibility Regulations 2016 Great Britain**
- **RoHS-Directive 2011/65/EU Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment**

Full compliance with the standards listed below proves the conformity of the designated product with the provisions of the above-mentioned Directives:

EN 61326–1:2013	Electrical equipment for measurement, control, and laboratory use – EMC requirements
EN IEC 63000:2019-05 replaced EN 50581:2012	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

For the mentioned product, a complete documentation with manual of instruction in original version is available.

In case of any changes not agreed upon with the manufacturer, this declaration of conformity loses its validity.

St. Ruprecht a.d. Raab, 31.07.2022

 **Schaller**
Mess- und Feuchtigkeitsmessung
Schaller Messtechnik GmbH
99072 - Schaller, 0361 99072-99
AT-818 / St. Ruprecht a.d. Raab
www.humimeter.com | info@humimeter.com

.....
Bernhard Maunz
Legal binding signature of the issuer

14.2 Technical data

Display resolution	0,1 % water content, 0,5 °C/°F temperature
Measuring range	6 % bis 40 % water content (depending on material)
Operating temperature	0 °C to +50 °C
Storage temperature	-20 °C to +60 °C
Temperature compensation	automatic
Data memory	Up to 10,000 measuring values
Measuring depth	10 mm
Minimum material thickness	60 cm
Fabrication process	sulfate / sulfite process
Treatment	bleached and unbleached
Pulp density range	450 - 900 kg/m ³
Power supply	4 x 1,5 Volt AA Alkaline batteries
Power consumption	60 mA (with display illumination)
Menu languages	German, English, French, Italian, Spanish, Portuguese, Czech, Polish, Russian, International
Display	128 x 64 illuminated matrix display
Device dimensions	575 x 75 x 46 mm
Wooden box dimensions	780 x 110 x 70 mm
Device weight	685 g
Device + wooden box weight	1700 g
Device IP rating	IP 40

15. Notes

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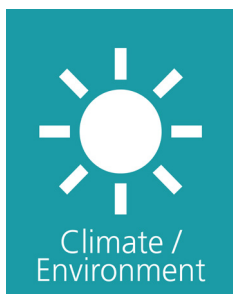
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Schaller Messtechnik develops, produces and sells professional moisture meters and turnkey solutions.

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